WHAT IS CLAIMED IS:

1.   A recording/reproduction method by which data is read from a first recording medium containing first MPEG data which is divided taking a given data unit as one data group, and a recording/reproduction process for the read data is carried out, comprising:

a reading step of reading the first MPEG data from the first recording medium;

an information obtaining step of obtaining positional information which indicates positions of previous and subsequent data groups of a specific data group in the read first MPEG data with respect to said specific data group, on the basis of the first MPEG data;

an information addition step of adding the positional information at a determined position in the first MPEG data to generate second MPEG data; and

a recording step of recording the second MPEG data on a second recording medium.

2.   A recording/reproduction method by which data is read from a first recording medium containing first MPEG data which is divided taking a given data unit as one data group, and a recording/reproduction process for the read data is carried out, comprising:

a reading step of reading the first MPEG data from the first

recording medium;

a decoding step of decoding the read first MPEG data to generate a decoded signal;

a re-encoding step of re-encoding the decoded signal so as to make the amount of information smaller than that of the first MPEG data, to generate second MPEG data; and

a recording step of recording the second MPEG data on a second recording medium.

3.   A recording/reproduction method by which data is read from a first recording medium containing first MPEG data which is divided taking a given data unit as one data group, and a recording/reproduction process for the read data is carried out, comprising:

a reading step of reading the first MPEG data from the first recording medium;

a decoding step of decoding the read first MPEG data to generate a decoded signal;

a re-encoding step of re-encoding the decoded signal so as to make the amount of information smaller than that of the first MPEG data, to generate second MPEG data;

an information obtaining step of obtaining positional information which indicates positions of previous and subsequent data groups of a specific data group in the second MPEG data with respect to said specific data group, on the basis of the second

MPEG data;

an information addition step of adding the positional information at a determined position in the second MPEG data, to generate third MPEG data; and

a recording step of recording the third MPEG data on a second recording medium.

4. The recording/reproduction method of Claim 3 wherein

the information obtaining step includes:

a step of recording the second MPEG data on a third recording medium;

a step of reading the second MPEG data from the third recording medium; and

a step of obtaining positional information which indicates positions of previous and subsequent data groups of a specific data group in the read second MPEG data with respect to said specific data group, on the basis of the second MPEG data.

5. The recording/reproduction method of Claim 2 wherein

the first recording medium contains MPEG data of a fixed rate as the first MPEG data, and

in the re-encoding step, a decoded signal corresponding to the fixed-rate MPEG data is re-encoded, thereby generating MPEG data of a variable rate as the second MPEG data.

6.   The recording/reproduction method of Claim 3 wherein

the first recording medium contains MPEG data of a fixed

rate as the first MPEG data, and

in the re-encoding step, a decoded signal corresponding to

the fixed-rate MPEG data is re-encoded, thereby generating MPEG

data of a variable rate as the second MPEG data.

7.   The recording/reproduction method of Claim 6 wherein

the information obtaining step includes:

a step of recording the variable-rate MPEG data on a third

recording medium as the second MPEG data;

a step of reading the variable-rate MPEG data from the third

recording medium; and

a step of obtaining positional information which indicates

positions of previous and subsequent data groups of a specific

data group in the read variable-rate MPEG data with respect to

said specific data group, on the basis of the variable-rate MPEG

data.

8.   The recording/reproduction method of Claim 2 wherein

the re-encoding step includes: a conversion step of

converting a decoded signal having a prescribed resolution,

corresponding to the first MPEG data, into a signal having a

resolution which is lower than the prescribed resolution; and a

step of re-encoding the converted signal to generate the second

MPEG data.

9.   The recording/reproduction method of Claim 3 wherein

the re-encoding step includes: a conversion step of

converting a decoded signal having a prescribed resolution,

corresponding to the first MPEG data, into a signal having a

resolution which is lower than the prescribed resolution; and a

step of re-encoding the converted signal to generate the second

MPEG data.

10.   The recording/reproduction method of Claim 8 or 9 wherein

the decoded signal corresponding to the first MPEG data is

a high-definition signal and the signal which is generated by

converting the resolution of the decoded signal is a standard

signal.

11.   The recording/reproduction method of Claim 9 wherein

the information obtaining step includes:

a step of recording the second MPEG data on a third recording

medium;

a step of reading the second MPEG data from the third

recording medium; and

a step of obtaining positional information which indicates

positions of previous and subsequent data groups of a specific

data group in the read second MPEG data with respect to said

specific data group, on the basis of the second MPEG data.

12.   A recording/reproduction method by which MPEG data that is obtained by coding a video signal by an MPEG coding system and is divided taking a given data unit as one data group is recorded/reproduced, comprising:

a storage step of storing first MPEG data corresponding to one or more data groups in a data storage unit;

a reading step of reading the first MPEG data from the data storage unit;

an information obtaining step of obtaining positional information which indicates positions of previous and subsequent data groups of a specific data group in the read first MPEG data with respect to the specific data group, on the basis of the first MPEG data;

an information addition step of adding the positional information at a determined position in the first MPEG data, to generate second MPEG data; and

a recording step of recording the second MPEG data on a second recording medium.

13.   The recording/reproduction method of any of Claims 1, 2 and 3 including:

a coding step of coding a video signal by an MPEG coding system to create video data and simultaneously coding an audio

signal to create audio data;

a multiplexing step of multiplexing the audio data and the video data to generate the first MPEG data; and

a preprocessing recording step of recording the first MPEG data on the first recording medium.

14. The recording/reproduction method of any of Claims 1, 3 and 12 wherein

in the information addition step, the positional information indicating the positions of the previous and subsequent data groups of the specific data group with respect to said specific data group is added in the vicinity of the head of said specific data group.

15. The recording/reproduction method of any of Claims 1, 2, 3 and 12 wherein

in the reading step, the first MPEG data is read at a speed which is higher than a real time reproduction speed at which the first MPEG data is normally decoded and displayed, and

in the recording step, the second MPEG data is written on the second recording medium at a speed which is higher than a real time reproduction speed at which the second MPEG data is normally decoded and displayed.

16. The recording/reproduction method of Claim 2 or 3 wherein

in the decoding step, only video data included in the first MPEG data is decoded to generate a decoded video signal;

in the re-encoding step, the decoded video signal is re-encoded to generate re-encoded video data, and the re-encoded video data is multiplexed with delayed audio data which is obtained by delaying audio data included in the first MPEG data, thereby generating multiplexed data; and

in the recording step, the multiplexed data is recorded as the second MPEG data.

17.   The recording/reproduction method of Claim 2 or 3 wherein

in the re-encoding step,

one of data processings:

a data insertion processing for inserting external audio data which is obtained by coding an audio signal from outside, into the second MPEG data;

a data replacement processing for replacing the external audio data with audio data in the second MPEG data; and

a data composition processing for composing the external audio data with the audio data in the second MPEG data, is performed.

18.   The recording/reproduction method of any of Claims 1, 2, 3 and 12 wherein

the MPEG data is coded data which conforms to any of MPEG1,

MPEG2, MPEG4, and MPEG7 standards.

19.　The recording/reproduction method of any of Claims 1, 2 and 3 wherein

the first and second MPEG data are transport streams or program streams.

20.　The recording/reproduction method of any of Claims 1, 2, 3 and 12 wherein

the data group is composed of one or plural GOPs each being an access unit at reproduction.

21.　The recording/reproduction method of any of Claims 1, 2, 3 and 12 wherein

the first and second recording media are any of a hard disk, an optical disk, a magneto-optical disk, a semiconductor memory, and a magnetic tape.

22.　The recording/reproduction method of any of Claims 1, 2, 3 and 12 wherein

the first and second recording media are one and the same data recording medium.

23.　A recording/reproduction apparatus which read data from a first recording medium containing first MPEG data which is divided

taking a given data unit as one data group, and carries out a recording/reproduction process for the read data, comprising:

a reading unit for reading the first MPEG data from the first recording medium;

an information obtaining unit for obtaining positional information which indicates positional information which indicates positions of previous and subsequent data groups of a specific data group in the read first MPEG data with respect to said specific data group, on the basis of the first MPEG data;

an information addition unit for adding the positional information at a determined position in the first MPEG data, to generate second MPEG data; and

a recording unit for recording the second MPEG data on a second recording medium.

24. A recording/reproduction apparatus which read data from a first recording medium containing first MPEG data which is divided taking a given data unit as one data group, and carries out a recording/reproduction process for the read data, comprising:

a reading unit for reading the first MPEG data from the first recording medium;

a decoding unit for decoding the read first MPEG data to generate a decoded signal;

a re-encoding unit for re-encoding the decoded signal so as to make the amount of information smaller than that of the first

MPEG data, to generate second MPEG data; and

a recording unit for recording the second MPEG data on a second recording medium.

25. A recording/reproduction apparatus which read data from a first recording medium containing first MPEG data which is divided taking a given data unit as one data group, and carries out a recording/reproduction process for the read data, comprising:

a reading unit for reading the first MPEG data from the first recording medium;

a decoding unit for decoding the read first MPEG data to generate a decoded signal;

a re-encoding unit for re-encoding the decoded signal so as to make the amount of information smaller than that of the first MPEG data, to generate second MPEG data;

an information obtaining unit for obtaining positional information which indicates positions of previous and subsequent data groups of a specific data group in the second MPEG data with respect to said specific data group, on the basis of the second MPEG data;

an information addition unit for adding the positional information at a determined position in the second MPEG data, to generate third MPEG data; and

a recording unit for recording the third MPEG data on a second recording medium.

26.   A recording/reproduction apparatus which records/reproduces MPEG data that is obtained by coding a video signal by an MPEG coding system, comprising:

a memory unit for storing first MPEG data corresponding to one or more data groups;

a reading unit for reading the first MPEG data from the memory unit;

an information obtaining unit for obtaining positional information which indicates positional information which indicates positions of previous and subsequent data groups of a specific data group in the read first MPEG data with respect to said specific data group, on the basis of the first MPEG data;

an information addition unit for adding the positional information at a determined position in the first MPEG data, to generate second MPEG data; and

a recording unit for recording the second MPEG data on a second recording medium.

27.   A recording medium which contains second MPEG data generated by the recording/reproduction method of Claim 1 wherein

the second MPEG data is divided taking a given data unit as one data group, and has a data structure including positional information which indicates positions of previous and subsequent data groups of a specific data group with respect to said specific

data group.

28.   A personal computer which implements a data processing, by
software, for reading data from a first recording medium
containing first MPEG data which is divided taking a given data
unit as one data group, and recording/reproducing the read data
wherein

said data processing includes:

a reading process for reading the first MPEG data from the
first recording medium;

an information obtaining process for obtaining positional
information which indicating positions of previous and subsequent
data groups of a specific data group in the read first MPEG data
with respect to said specific data group, on the basis of the first
MPEG data;

an information addition process for adding the positional
information at a determined position in the first MPEG data, to
generate second MPEG data; and

a recording process for recording the second MPEG data on
a second recording medium.

29.   A personal computer which implements a data processing, by
software, for reading data from a first recording medium
containing first MPEG data that is divided taking a given data
unit as one data group, and recording/reproducing the read data

wherein

said data processing includes:

a reading process for reading the first MPEG data from the first recording medium;

a decoding process for decoding the read first MPEG data to generate a decoded signal;

a re-encoding process for re-encoding the decoded signal so as to make the amount of information smaller than that of the first MPEG data, to generate second MPEG data; and

a recording process for recording the second MPEG data on a second recording medium.

30. A personal computer which implements a data processing, by software, for reading data from a first recording medium containing first MPEG data which is divided taking a given data unit as one data group, and recording/reproducing the read data wherein

said data processing includes:

a reading process for reading the first MPEG data from the first recording medium;

a decoding process for decoding the read first MPEG data to generate a decoded signal;

a re-encoding process for re-encoding the decoded signal so as to make the amount of information smaller than that of the first MPEG data, to generate second MPEG data;

an information obtaining process for obtaining positional information which indicates positions of previous and subsequent data groups of a specific data group in the second MPEG data with respect to said specific data group, on the basis of the second MPEG data;

an information addition process for adding the positional information at a determined position in the second MPEG data, to generate third MPEG data; and

a recording process for recording the third MPEG data on a second recording medium.

31.   A personal computer which has a memory unit for holding MPEG data that is obtained by coding a video signal by an MPEG coding system and is divided taking a given data unit as one data group, and implements a data processing for recording/reproducing the MPEG data by software, wherein

said data processing includes:

a storage process for storing first MPEG data corresponding to one or more data groups in a memory unit;

a reading process for reading the first MPEG data from the memory unit;

an information obtaining process for obtaining positional information which indicates positions of previous and subsequent data groups of a specific data group in the read first MPEG data with respect to said specific data group, on the basis of the first

MPEG data;

an information addition process for adding the positional information at a determined position in the first MPEG data, to generate second MPEG data; and

a recording process for recording the second MPEG data on a second recording medium.

32.   A recording/reproduction program for implementing a recording/reproduction process, by a computer, for reading data from a first recording medium containing first MPEG data which is divided taking a given data unit as one data group and recording/reproducing the read data wherein

said recording/reproduction process includes:

a reading step of reading the first MPEG data from the first recording medium;

an information obtaining step of obtaining positional information which indicates positions of previous and subsequent data groups of a specific data group in the read first MPEG data with respect to said specific data group, on the basis of the first MPEG data;

an information addition step of adding the positional information at a determined position in the first MPEG data, to generate second MPEG data; and

a recording step of recording the second MPEG data on a second recording medium.

33.   A recording/reproduction program for implementing a
recording/reproduction process, by a computer, for reading data
from a first recording medium containing first MPEG data which
is divided taking a given data unit as one data group and
recording/reproducing the read data wherein

said recording/reproduction process includes:

a reading step of reading the first MPEG data from the first
recording medium;

a decoding step of decoding the read first MPEG data to
generate a decoded signal;

a re-encoding step of re-encoding the decoded signal so as
to make the amount of information smaller than that of the first
MPEG data, to generate second MPEG data; and

a recording step of recording the second MPEG data on a second
recording medium.

34.   A recording/reproduction program for implementing a
recording/reproduction process, by a computer, for reading data
from a first recording medium containing first MPEG data which
is divided taking a given data unit as one data group and
recording/reproducing the read data wherein

said recording/reproduction process includes:

a reading step of reading the first MPEG data from the first
recording medium;

a decoding step of decoding the read first MPEG data to generate a decoded signal;

a re-encoding step of re-encoding the decoded signal so as to make the amount of information smaller than that of the first MPEG data, to generate second MPEG data;

an information obtaining step of obtaining positional information which indicates positions of previous and subsequent data groups of a specific data group on the second MPEG data with respect to said specific data group, on the basis of the second MPEG data;

an information addition step of adding the positional information at a determined position in the second MPEG data, to generate third MPEG data; and

a recording step of recording the third MPEG data on a second recording medium.

35. A recording/reproduction program for implementing a recording/reproduction process, by a computer, for recording/reproducing MPEG data which is obtained by coding a video signal by an MPEG coding system and is divided taking a given data unit as one data group wherein

said recording/reproduction process includes:

a storage step of storing first MPEG data corresponding to one or more data groups in a data storage unit;

a reading step of reading the first MPEG data from the data

storage unit;

an information obtaining step of obtaining positional information which indicates positions of previous and subsequent data groups of a specific data group in the read first MPEG data with respect to said specific data group, on the basis of the first MPEG data;

an information addition step of adding the positional information at a determined position in the first MPEG data, to generate second MPEG data; and

a recording step of recording the second MPEG data on a second recording medium.